

17
PUBLIC HEALTH ACT.

(11 & 12 Vict., Cap. 63.)

R E P O R T

TO THE

GENERAL BOARD OF HEALTH,

ON A

PRELIMINARY INQUIRY

INTO THE SEWERAGE, DRAINAGE, AND SUPPLY OF
WATER, AND THE SANITARY CONDITION
OF THE INHABITANTS

OF THE PARISH OF

B U R S L E M,

IN THE COUNTY OF STAFFORD.

By WILLIAM LEE, Esq., C.E.,

SUPERINTENDING INSPECTOR.



LONDON:

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FOR HER MAJESTY'S STATIONERY OFFICE.

1850.

NOTIFICATION.

THE General Board of Health hereby give notice, in terms of section 9th of the Public Health Act, that within a period not exceeding one month from the date of the deposit hereof, written statements may be forwarded to the Board with respect to any matter contained in or omitted from the accompanying Report on the Sewerage, Drainage, and Supply of Water, and the Sanitary Condition of the Inhabitants, of the Parish of BURSLEM, in the County of Stafford; or with respect to any amendment to be proposed therein.

By order of the Board,

HENRY AUSTIN, *Secretary.*

*Gwydyr House, Whitehall,
5th April, 1850.*

PUBLIC HEALTH ACT (11 & 12 Vict., cap. 63).

Report to the General Board of Health on a Preliminary Inquiry into the Sewerage, Drainage, and Supply of Water, and the Sanitary Condition of the Inhabitants, of the Parish of BURSLEM, in the County of Stafford. By WILLIAM LEE, Esq., C.E., Superintending Inspector.

WHEREAS, in pursuance of the Public Health Act, 1848, the General Board of Health appointed for the purposes of that Act have, upon a certain Resolution unanimously passed at a public meeting of the inhabitants rated to the relief of the poor of and within the parish of Burslem, in the county of Stafford (the last return made up by the Registrar-General of Births, Marriages, and Deaths, showing that the deaths registered in a period of not less than seven years in the said parish have annually on an average exceeded the proportion of 23 to 1000 of the population of such parish), directed William Lee, a superintending inspector appointed for the purposes of the said Act, to visit the said parish, and to make public inquiry and to examine witnesses as to the sewerage, drainage, and supply of water, the state of the burial-grounds, the number and sanitary condition of the inhabitants; and as to any local Acts of Parliament in force within such parish for paving, lighting, cleansing, watching, regulating, and supplying with water, or improving the said parish, or having relation to the purposes of the said Act; also as to the natural drainage-areas, and the existing municipal, parochial, or other local boundaries, and the boundaries which might be most advantageously adopted for the purposes of the said Act;—

Now I, the said William Lee, having previously given the notices directed by the said Act, proceeded upon the said inquiry in the manner directed by the said Act, and do report in writing to the said General Board upon the several matters with respect to which I was so directed to inquire as aforesaid, and upon certain other matters in respect of which I deem it expedient to report for the purposes of the said Act, as follows:—

Gwydyr House, Whitehall, November 1, 1849.

MY LORDS AND GENTLEMEN,

THE inquiry at Burslem was opened in the Town-hall there on Wednesday, the 26th day of September last past, and was continued on that and the three following days, until I had inspected the whole of the parish, and had heard all persons who chose to give information touching the inquiry.

Mr. Samuel Wooton proved that the public notices of the inquiry had been duly affixed, after which I explained the mode of conducting the investigation, and asked for the list, required by the 9th Regulation of the Board, of places where epidemic, endemic, and contagious diseases had occurred. This was furnished by Joseph Lowndes, Esq., Superintendent Registrar, and contained the following streets and places:—Hot-lane, Greetings-Flash, Twenty-row, Hole-house, Kiln-croft, Commercial-street, Bourne's-bank, Church-street, Back-hadderage, High-street, Furlong-passage, Willett's-court, Back-sytech, Bag-street, Dale-hall, and Longport.

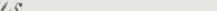

Many complaints were made by the inhabitants present, of defective water-supply, want of drainage, and the existence of nuisances injurious to health, but not removeable under the Nuisances Removal and Diseases Prevention Act. Some of these complaints will be named hereinafter.

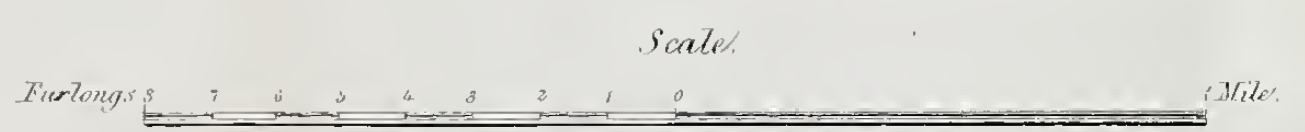
Edward Challinor, Esq., solicitor, appeared on behalf of many of the inhabitants of the lordship of Abbey Hulton and the ville of Rushton Grange, both in the parish of Burslem, and objected to the application of the Public Health Act to those places. He stated that he and his clients did not oppose the introduction of the Act into the township of Burslem, or the hamlet of Sneyd; but that Abbey Hulton was an agricultural district, having about 60 or 80 houses, and, with a few exceptions, the whole was the property of Mr. Sneyd. As far as drainage and the supply of water went, Abbey Hulton did not need them; that sewerage could not be applied; and as to the drainage and sewerage of Rushton Grange, which contained the village of Cobridge, very little, if any, was requisite. There were no burial-grounds, the dead were brought to the parish church. Mr. Challinor then went on to state that the two places were healthy, and that there was nothing in the way of swamps or bogs to engender malaria or fever. The Nuisances Removal Act being put into operation would be quite sufficient for all purposes, as far as they were concerned.

I thereupon explained such parts of the Public Health Act as answered the objections made; but as evidence was afterwards given in support of the omission of these places from the operation

BURSLEM.



Present Boundary of Parish shown thus 
Proposed Boundary colored Red thus. 





of the Act, I think it better to reserve the consideration of the whole subject to a subsequent part of this Report.

After a short adjournment I proceeded to inspect the town, and in this I was accompanied by the following gentlemen: W. S. Kennedy, Esq., Chief Constable; George Baker, Esq., Chairman of the Board of Guardians; J. W. Moseley, Esq., M.D.; Daniel Ball, Esq., Medical Officer of the Union; Samuel Goddard, Esq., Medical Officer of the Union; Joseph Walker, Esq., Surgeon; Isaac Hitchen, Esq.; S. B. Wilson, Esq., Agent to Lord Camoys; Joseph Lowndes, Esq., Clerk to the Guardians; John Ward, Esq., Solicitor, Churchwarden; Stephen Hughes, Esq., Manufacturer; Edward Walley, Esq., Manufacturer; William Brownfield, Esq., Manufacturer; and Mr. George Ryles, Inspector of Nuisances.

HISTORY, LOCAL GOVERNMENT, &C.—Burslem is a market-town and parish in the north division of the hundred of Pirehill, in the union of Wolstanton and Burslem, county of Stafford. The parish consists of the township of Burslem, the hamlet of Sneyd, the ville of Rushton Grange, and the lordship of Abbey Hulton, each of which have in some respects separate jurisdictions, though all are chargeable to a common poor-rate. The township of Burslem contains only a small proportion of purely agricultural land. Rushton Grange and Sneyd are mixed up of manufactories, coal-mines, and farms, while Abbey Hulton is entirely a mining and agricultural district, containing only about 100 houses. The township of Burslem forms part of the parliamentary borough of Stoke-upon-Trent.

At a very early period the town was distinguished for the variety and excellence of the clays in its vicinity, and in the 17th century it was the principal place in England for the manufacture of earthenware. With the various improvements in the manufacture of white ware, other clays and calcined powdered flint were introduced, and the manufacture of Staffordshire pottery may be said to have been brought to perfection by the late Josiah Wedgwood. By far the larger portion of the inhabitants are employed in the numerous branches of the trade.

The average wages of a working-man are said to be about 25s. per week. The wives of some are also employed in the staple trades of the town, and their wages range from 7s. to 12s. Children from 10 years old to 15 can earn from 1s. to 8s., and many families receive 2l. per week or more. I am sorry to add that, from the evidence given, drunkenness, both in men and women, is the besetting evil of the town.

There are several churches, and the places of worship belonging to the various denominations of dissenters are very numerous.

The town-hall is a small but convenient building in the centre of the market-place, and has a news-room attached to it.

LOCAL ACTS OF PARLIAMENT.—6 Geo. IV. cap. 131, is a local Act of Parliament in force within the parish, “for regulating the Markets in the Town of *Burslem*, in the County of *Stafford*, and for lighting, regulating the Police, and watching the said Town of *Burslem* and the Villes of *Longport*, *Cobridge*, *Sneyd Green*, and Parts adjacent, in the Parish of *Burslem*.”

The Act appoints Trustees of the Town-hall and Market, and fixes the qualification of Commissioners to carry the purposes of the Act into execution. The lighting is restricted to certain limits, which might be advantageously extended; and the lordship of Abbey Hulton is exempted from the watching and police boundaries. The Trustees have power to make bye-laws for the regulation of the market, and with the Commissioners to appoint committees. The Trustees are also empowered to appoint scavengers to cleanse the market-place, “and the avenues and approaches to the same;” but it is provided that “nothing herein contained shall extend, or be construed to extend, to any ashes, cinders, dust, dirt, manure, filth, soil, dung, or rubbish, which any of the inhabitants of the said limits shall have occasion and shall think fit to preserve and keep within their own respective houses, yards, and gardens.” Such matters, however, are not to be laid in public places longer than may be necessary for loading and carrying away the same, nor to annoy any neighbour or the public. The Trustees are authorised to take market tolls, and to pave, drain, and light the market-place, and the streets, avenues, and approaches thereto. The Commissioners may purchase and contract with any person or persons to keep in repair fire-engines, pipes, buckets, &c., and to order them to be out in cases of fire, or to water the streets and public places. They have also power to provide offices and lock-up houses for the detention of felons, &c. They are to elect a chief constable out of their own body, and such deputy constables and watchmen as may be necessary. The Trustees are authorised to borrow money on the security of the rents, tolls, and profits, for any of the purposes of the Act, or to grant annuities. The tolls and other moneys received by the Trustees are to be applied in payment of the cost of the Act, the rents and fines due to the lord of the manor in respect of the market-house and waste lands in the possession of the Trustees, the purchase of premises for the markets, repairs of the Town-hall and market-house, &c.; in payment of the salary of the organist of *Burslem* church, in discharging money borrowed, and redeeming annuities; and then shall “be applied for and towards such general improvements in the said parish of *Burslem*, or for establishing, promoting, or assisting any public works, institutions, or establish-

ments there, as the said Trustees shall think proper." The Commissioners have power to levy a lighting rate of 6*d.* in the pound, and a police-rate of equal amount; but no rates are to be made on dwelling-houses under the value of 4*l.* When any new street has been paved to the satisfaction of the Commissioners, they may, with the consent of the major part of the owners of the soil, declare the same to be a public highway; "and it shall also be lawful for the said Commissioners to connect any such streets or open the same into any other streets or public highways, with the consent of the owner, proprietor, and occupier of the lands, houses, and premises which may intervene and be necessary to use for such purpose. Front streets are not to be of less width than 10 yards, or back streets less than 8 yards. Proprietors are compellable to pave and complete new streets, or in case of default the Commissioners may do it, and recover the cost. The Act then proceeds to the prevention of various nuisances, annoyances, and obstructions, and enacts a penalty of 5*l.* against any person removing night-soil, except between the hours of 12 at night and 5 in the morning, or for negligently spilling the same in any public place.

Another local Act of Parliament in force within the parish of Burslem was passed in the 2nd of Victoria, session 1839, intituled "An Act for the more effectual Execution of the Office of a Justice of the Peace within and adjoining to the District called the Staffordshire Potteries, and for Purposes connected therewith." None of its provisions interfere with the Public Health Act.

10 & 11 Vict. cap. 204, is "An Act for supplying with Water certain Parts of the Staffordshire Potteries and the Town of Newcastle-under-Lyme, and several Townships and Places adjoining or near thereto."

Burslem, with its hamlets of Rushton Grange, Longport, Sneyd, Sneyd Green, Abbey Hulton, and Cobridge, are all within the limits of the Act.

12 & 13 Vict. cap. 36, is "An Act to extend and enlarge the Powers of the Staffordshire Potteries Waterworks Act, 1847," above recited. In this Act it is enacted "That nothing herein contained shall be deemed or construed to exempt the Company from the provisions of 'The Public Health Act, 1848,' or of any general Act relating thereto, or to the subject-matter thereof, which may pass during the present or any future Session of Parliament."

There is no other local Act of Parliament in force in the parish of Burslem for paving, lighting, cleansing, watching, regulating, supplying with water, or improving the same, or having relation to the purposes of the Public Health Act.

The police and watching powers of the local Act have been in abeyance since 1842, when the county constabulary force was

introduced. There are a Superintendent, an Inspector, and about 10 men stationed in the town.

W. S. Kennedy, Esq., Chief Constable of Burslem, says in his evidence—

“The duties of my office have been considerably abridged since the application of the County Constabulary Act,—a change which was made in consequence of the riots and disturbances in 1842. A very considerable alteration has since taken place in the opinions of the inhabitants, and they now think that the powers previously in existence would be amply sufficient for maintaining the peace of the town. Since that change the duties of the chief constable are principally confined to presiding over the meetings of the commissioners under the Local Act for lighting and police, and over public meetings of the inhabitants. The office is an honorary one of some importance.”

PUBLIC PLANS AND SURVEYS.—In another part of his evidence Mr. Kennedy says,—

“I am not aware of any plan or survey which would show all the houses in Burslem separately.”

CONTOUR GEOLOGY, METEOROLOGY, &c.—Burslem is at a great altitude above the sea, and is very favourably situated for the discharge of surface-water. The service reservoir of the Staffordshire Potteries Waterworks Company is within the parish, and not more than a mile and a half from the town, though at a sufficient elevation to command all the towns in the Potteries. Notwithstanding this, however, the geological character of the soil and subsoil is such as to retain a large quantity of moisture. This is the case both with the site of the town and the suburban land, and without proper drainage of both is calculated to be injurious to the health of the inhabitants. The surface-soil is from 8 to 12 inches deep. In the immediate vicinity of the town the land is not very fertile, which is, to some extent, attributable to the large quantities of smoke produced by the manufactories of this and the adjacent towns.

All the subsoil of the town is clay, varying from 2 to 10 feet in thickness. It is called in the neighbourhood “Tough Tom,” and is used in the manufacture of yellow ware, and also of red and brown ware.

Burslem is situated upon the coal-measures, which contain numerous faults, indicating, at some period, the action of powerful disturbing forces. There is no stone in the neighbourhood, and therefore the atmosphere has combined freely with the ferruginous matters in the marls and clays of the strata, and gradually produced a soft outline of boldly swelling hills and slopes, along the bottoms of which flow rapidly descending brooks, at times almost dry, but at other times impetuous mountain torrents, which flood

some of the cottages in the lower part of the town. There are many of these brooks in the parish, and they enclose the town of Burslem proper on the west, south, and east. Below the subsoil there is marl and fire-clay, at the least 50 feet thick. Some of it is made into floor and roof tiles, and drain-pipes; a hard blue brick is also manufactured from the same stratum, and used for paving the public footways. The most important purpose, however, to which the fire-clay is applied is that of "saggers"—oval or circular pans about a foot deep, to contain the finer ware, and to protect it from immediate contact with the fire, while undergoing the process of burning. Below these clays and marls lies the coal, which, however, is not of very good quality. The general dip of the strata is to the west.

No meteorological observations have been taken at Burslem. The direction of the prevalent wind is westerly.

POPULATION AND RATE OF INCREASE. NUMBER AND CLASSIFICATION OF HOUSES.—In 1831 the population of the township of Burslem was 11,250; of Abbey Hulton, 501; of Sneyd, 963—total, 12,714. The ville of Rushton Grange appears to have been included in the census of Burslem township. In 1841 Burslem township contained 12,631; Abbey Hulton, 548; Rushton ville, 1584; and Sneyd, 1328—total 16,091. The increase during the 10 years was 26·6 per cent.

The estimated population of the whole parish for the year ending June, 1849, is 17,503, showing an increase during the 8 years equal to 8·8 per cent.

The number of houses in 1831, in Burslem township, was 2731; in Abbey Hulton, 94; in Sneyd, 170—total, 2995. The ville of Rushton Grange not distinguished from Burslem township. In 1841 the number in Burslem township was 2379; Abbey Hulton, 101; Rushton Grange, 292; and Sneyd, 242—total, 3014. At present the numbers are—Burslem township, 2844; Sneyd, 266; Abbey Hulton and Rushton Grange, 429—total, 3539.

During the 10 years from 1831 to 1841 the increase in house accommodation was only 0·63 per cent., while the population had increased 26·6 per cent. In the eight years since 1841 the houses increased 17·4 per cent., with an increase in population of 8·8 per cent.

In 1831 the average number of inhabitants was 4·24 per house; in 1841 it was 5·33 per house; and at the present time it is 4·94 per house.

The following table, for which, as well as for many other important statistics connected with this inquiry, I am indebted to Joseph Lowndes, Esq., Superintendent Registrar, classifies the houses in the several portions of the parish, according to their rateable value at the present time:—

	£3 and under £4.	£4 and under £5.	£5 and under £6.	£6 and under £7.	£7 and under £8.	£8 and under £9.	£9 and under £10.	£10 and under £15.	£15 and under £20.	£20 and under £25.	£25 and under £30.	£30 and under £40.	£40 and under £50.	£50 and under £60.	£60 and under £70.	£70 and under £80.	£80 and under £90.	£90 and under £100.	£100 and upwards.
Burslem	1,325	891	146	83	59	28	16	99	91	30	21	26	10	5	6	2	1	2	3
Sneyd	199	24	7	1	3	4	..	7	7	1	1	1	3	..	2	2	1	2	1
Hulton Ab- bey and Rushton Grange.	240	73	18	12	14	6	5	13	14	16	5	3	1	..	9
	1,764	988	171	96	76	38	21	119	112	47	27	30	13	5	8	4	3	4	13

Total number of Houses 3,539

Township of Burslem 2,844
 Hamlet of Sneyd 266
 Lordship of Abbey Hulton, and Ville of Rushton Grange 429
 3,539

J. LOWNDES,
Superintendent Registrar.

It appears from this that half of the houses in Burslem are rated under 4*l.* annual value, and that more than three-fourths are under the value of 5*l.*

DISEASES AND MORTALITY.—Under this head I shall present, first, some of the facts observed during the inspection of the parish; secondly, an abstract of the evidence of the medical and other witnesses whose duties have made them acquainted with this part of the subject; and, lastly, some deductions from the records of the registration of births and deaths.

It will be observed as a remarkable fact, that, whatever may be the prevalent epidemic, it is always to be found in certain localities of the town, and is always developed there in its most malignant form. I have found such localities in almost every town I have visited, and Burslem forms no exception. Even so far back as the year 1647, the plague broke out and spread in the lower parts of Burslem, *about the Hole-house and Hot-lane.* The terror became so great that people were afraid to go near the infected, but supplied food and medicines by leaving them outside the dwellings. It is recorded that the village of Burslem was nearly ruined by the fatal calamity.

These places are still among the most unhealthy in the town of Burslem, although the inhabitants have had the experience of two centuries, proving before their eyes the deadly effects of localized filth.

In *Kiln Croft*, Mayer's-square, the first case of cholera during the present year occurred. There are about 12 houses to one most filthy privy. There is no under-drain. The whole of the refuse flows from Bailey's-court, over Cross-street, and under the floor of a house belonging to Ephraim Mayer, and then through Mayer's-bank. In Adam's-court the drainage is similar, and W. S. Kennedy, Esq., chief constable, said that there had been 8 deaths in the immediate locality since the 7th of July. Five houses have drains under the floors, and Thomas Ford's wife, one of the occupants, said,—

“The privies have to be emptied through the houses, and the stuff carried out in buckets; we pay the men 3*d.* per time, and it is emptied about once in 3 months. It is taken out about 11 o'clock at night, and there is a very unpleasant stench, but we set the windows open as soon as we can. We take the ashes to a field about 100 yards off. We have no regular water. We get slopping water from the Moorland-road. We obtain water for food from the public tap, and have about 6 gallons for $\frac{1}{2}$ *d.*”

There are many other courts in *Kiln Croft*, and the whole of the locality is a plague-spot. *Daniel's-row*, in *Sneyd*, has some very unhealthy places. Leah Greatbatch said,—

“There were 6 cases of cholera next door to my house in 7 days. I and two of my children had it about 6 weeks since. I get water up at

yonder washing-pit, about a quarter of a mile off. We have a well, but the water is not fit to use. I do not buy, I do as well as I can. I am on the parish and receive 8 four-pound loaves and 2s. weekly."

Some uninhabited dilapidated houses adjoining are used as common privies by the people. *Commercial-street* is a remarkable instance of want of drainage accompanied by excessive mortality. The brook runs at the bottom of the street and the inclination is sufficient; but all the washings are thrown on the surface, and the night-soil is allowed to accumulate close to the houses. George Bostock's wife was stated by some of the gentlemen who accompanied me to be one of the cleanest women in Burslem, and her family have been exempted from disease even under such adverse circumstances. She says,—

"I am 67 years old, and am obliged to carry out all the refuse from the yard at the back in a bucket. The privy-soil has to be carried through the house. We pay from 6d. to 1s. each time, and I often go out of the house then, because the smell is so bad. I have lived here 40 years, and have known a great number of persons die of fever and other diseases in the street. I could not tell how many. There have been many of cholera lately. We have a water-tap at the door; the supply comes from Hanley, and I pay 2s. 6d. per quarter."

The chairman of the board of guardians and the union clerk stated that there were 14 or 15 deaths from fever here two years ago, that there had been 24 cases of cholera and diarrhœa recently, and that any epidemic existing in the town is sure to be found there. The locality is near to *Hot-lane*.

Back of Church-street, Robotham's property.—The buildings are constructed so as to admit of no ventilation in the court-yard. There are 12 houses on the two sides. The space between them is 6½ yards wide, and it is divided midway by a brick wall, against which the privies are built. There are 6 privies altogether in a very offensive condition. In one corner of the yard is one of these cesspools, with a wall only a few inches high. It is full of soil, in a disgusting state, and within 3 feet of the door of a house occupied by John Jones. He and his wife had both had cholera 3 weeks before my visit. At the adjoining house there were two fatal cases. One of them was a person married the Monday but one before, and buried the Monday before my inspection. In another house in the same property a mother and daughter had died, and there had been 13 cases altogether. There was no drainage.

Bourne's-bank.—Here is one of the principal sewers of the town, but a very defective one. It runs for 200 yards, frequently under the houses, and out of 30 houses there had been 24 cases of cholera and 6 deaths within a short time.

Hole-house.—There are some dilapidated houses, two of which are used for common lodging-houses, and the occupants have been in the habit, until recently, of throwing out all their excrementitious matters in front of the door. In this locality there have been

lately 35 cases of cholera and 6 deaths. The late Ralph Lees' daughter said—

“I am twenty years old, and have three brothers alive. My father, mother, and sister died of cholera eight weeks ago. I had it too; and the same night my mother was taken she rubbed my legs. We had a privy against the end of the house. That privy was also against a pottery-flue, and there was such a heat that it used to bake the filth, and make it boil and stink. We could smell it so bad in the house that we could hardly eat a bit of meat.”

Sylvester-square, in Sneyd, is another locality of fever and cholera, with very foul, stagnant drainage, and no apparent outlet. The cottages are dilapidated and out of perpendicular. The situation is high, and ought to be healthy.

Upper Hadderige, George Johnson's property, and the adjoining premises.—The houses have back yards about 5 feet wide closed in by high buildings. These yards contain privies, and the night-soil has to be carried through the houses at a cost of not less than 3*d.* per month. I found the liquid filth on one of the kitchen floors. Mr. Walker, surgeon, said that there had been several cases of fever, and in one house, at the bottom of the street, 4 cases of cholera.

Pleasant-street has an open sewer at the bottom, and there had been, recently, one fatal case of diarrhœa and another of cholera.

Peel-street.—John Mellor's property, Mary Robinson occupant. Four persons have had fever in the house. Water for food has to be fetched from beyond the canal, nearly half a mile. A foul drain goes down at the backs of the houses, and the privy has a cesspool. It is emptied once in two months. Since March last two persons have died in the house of scarlet fever, and one of typhus.

Longport, Sharpe's-row.—From 200 to 300 feet of most horrible evaporating surface of night-soil just behind the houses belonging to Hugh Henshall Williamson, Esq. There is also an offensive pigsty, and a well within 5 feet of it. I examined the water, and found it to contain a great deal of flocculent animal matter. An adjoining well was in a similar condition. Arthur Lockett, tenant of the adjacent house, had five cases of fever and one death in his family in May last. There is no other water for the houses but these wells. Mr. Lowndes, the Superintendent-Registrar, said that when fever is in the district it is generally to be found in these houses.

Tomlinson's-row is a locality of low typhoid fever, and has filthy privies, piggeries, cesspools, and no drainage.

Green-head, property belonging to the representative of the late John Wedgwood.—The privies have overflowed, and the soil oozed out. It has evidently been recently repaired, but the stench is still very powerful. There have been two or three cases of cholera here.

I now proceed to the medical evidence, and, from its voluminous character, am compelled either to condense it, or to exceed the proper limits due to this part of my Report. In adopting the former alternative I feel it my duty to say, if not to the Board, at least to the inhabitants of Burslem, that the importance of evidence given on such a subject by the medical practitioners of their own town cannot be over-estimated. It deserves their most serious attention and consideration.

Joseph Walker, Esq., says,—

“I am a surgeon residing in Burslem, and have been in practice here 17 years. During that time I have had ample opportunities of becoming acquainted with the condition of the inhabitants. There have been two periods when influenza has prevailed in an epidemic form in the town. Typhus has also been epidemic, and typhoid fever was very prevalent last year. There was not much cholera here in 1832; that was the year when I came to Burslem. Some of these diseases may have been caused, and were certainly aggravated, by the want of sanitary arrangements. Influenza would be so aggravated, though I should say that the cause of influenza was chiefly if not entirely atmospherical. Small-pox and scarlatina are now prevalent here, and have been for some time: they are greatly aggravated by the low sanitary condition of the town. Scarlatina has been most frequent on the western side of the town, at *Longport, Dalehall*, and recently in *Peel-street*. Influenza was very generally distributed in both instances of its appearance. Typhus and typhoid fevers were and are most active in *Sylvester-square, Pleasant-street, Longport, Church-street, Commercial-street, New-street, Barnfield, Holehouse, Furlong, Kiln Croft, and High-street*; and also several cases at *Cobridge*.

“We have had a severe visitation of the cholera now raging in the country. The localities where I found it most malignant have been *Holehouse, Hot-lane, Commercial-street, Barnfield, King-street, Church-street, Navigation-road, New-street, Pleasant-street, Willett's-court, and Kiln Croft*. I had one case at *Cobridge*, but it was beyond the boundary of Burslem.* In many of these places the drainage is very bad, and the accumulations exceedingly offensive; so that the most filthy locality is the most diseased locality. I know the condition and general position of the privies and cesspools close to the houses; they are very prejudicial to health. Generally during the cholera the better class of houses, having greater facilities for cleanliness and the removal of offensive refuse, have been remarkably exempt from the disease. I should say that a great portion of the disease I have mentioned is preventible by proper sanitary regulations, particularly if you could at the same time improve the habits of the people, as well as the condition of their houses. Infants are neglected while the mothers are engaged in

* According to the returns made by the medical practitioners to Mr. Lowndes, there were 12 cases of diarrhœa, colic, and dysentery, in Cobridge, during the period of cholera, 11 of which were in the parish of Burslem. It also appeared from the register of deaths that Emily Titley, of Cobridge, died of diarrhœa on the 20th of August, 1849, and that a man named Calkin died of cholera on the 15th of November, at Bleak Hill, also in the ville of Rushton Grange.

workshops, and narcotics are extensively administered to them. These increase the infantile, and, consequently, the general mortality of the place. Much drunkenness and immorality is also caused by the wife being at the manufactory when the husband returns from work. I am decidedly of opinion that the sanitary improvement of these localities would improve the habits of the people. I know something generally of the provisions of the Public Health Act, and, from my experience here, am of opinion that its application to the parish of Burslem would be very beneficial to the inhabitants."

Daniel Ball, Esq., says in his evidence,—

"I am medical officer for the south-western district of the parish of Burslem. I have had that office for 15 years. I consider chest affections to be the prevalent diseases of the parish of Burslem. I am aware that would be the case if we were to take any parish in the United Kingdom. I think there is more than the usual proportion of cases of asthma, which I attribute to the employment in which most of the people are engaged; their workrooms being very much heated, and liable to sudden transition from heat to cold, and the contrary. In many instances these rooms are capable of improvement in the way of ventilation in a degree that would lessen the instances of such disease.

"In the printing-shops the heated air might be removed without injury to the ware, and would do great good to the persons employed in such rooms. Plate-makers, and makers of flat-ware, often work in places with great heat at their backs, and I have known them injured by it. I cannot say that there are localities in the town which predispose to asthma, or that our locality with its evils has anything to do with influenza. In 1832 we had not more than 2 cases of cholera in the parish, whilst we have typhus and typhoid fever more or less every year. Cholera has been almost entirely confined to the most irregular of our people. I mean by this that they are intemperate, uncleanly, and eat unwholesome food, one half of the week eating great quantities, and the remainder having scarcely enough to subsist on. I attribute the cholera to the habits of the people as much as to anything, their improvidence bringing them to poverty, and that driving them to the most filthy and unhealthy parts of the town. I agree with Mr. Walker entirely as to the localities of disease, and may add, from my own experience, *Queen-street* behind the Leopard inn, *Bourne's-bank*, *Upper* and *Lower Hadderige*, *Amicable-buildings*, the *Old Bag* at Dalehall, *Saint Paul's-street*, *Chapel-square*, *Longport*, *Mayer's-row*, *Longport*, *Brown-hills*, and the *Back Sytch*. I will leave the other side of the parish to my colleague, who will give you better information than I can. I have found fever more intensely active in some neighbourhoods than in others. I would name, in addition to the fever localities mentioned by Mr. Walker, *Amicable-buildings*, *Meakin's-row*, and the lower part of *Bourne's-bank*. I might name others, but it is difficult to carry them all in one's memory. All these places are ill-drained, and the sanitary condition of the inhabitants bad. I think the whole of the town from one end to the other requires good and sufficient drains. I further attribute the increase of disease latterly to the want of employment for the people, and to a decreasing supply of water for an increasing population. One part of the town being supplied from wells situate in the neighbourhood

of the parish graveyard, those wells receive mainly top-water, thus leading me to suspect percolation from the churchyard. I am not aware that any one has analyzed the water, but I have seen people carrying it at all hours of the night and day as muddy as possible.

“There are some parts of the town subject to floods. At the *Flash*, *Holehouse*, and *Longport*, the water gets into the houses, and when it recedes leaves them in a wretched condition. Such houses are generally damp, and the occupants would be liable to pneumonic diseases, including rheumatism. I do not think that any of the diseases enumerated are entirely preventible by sanitary measures alone. Such means must be aided by improvement in their habits and morals. I consider that their physical condition and their social and moral condition act and react upon each other as cause and effect, and should therefore expect a great improvement to take place in their social and moral condition from the construction of efficient sanitary works. A good system of drainage would prevent the spread of epidemic disease generally, but I do not think that typhoid fevers could be entirely eradicated.”

Samuel Goddard, Esq., says,—

“I am medical officer of the north-western district of the parish of Burslem. I have had the appointment 15 years. I concur generally in what Mr. Walker and Mr. Ball have said. With respect to the classes of diseases that have occurred here, and which have been alluded to by them, I should state that typhoid fevers exist chiefly along the valley, extending a width of about half a mile on each side, from *Brown-hills* to *Etruria*. In the autumn of 1831 typhus existed to a greater extent than I have known it to do at any period since, and was confined to the valley and its immediate neighbourhood. It has existed in the higher parts of the town, but in such situations was chiefly confined to those places where the buildings are very much crowded, and the sewerage most defective. We have had fatal cases in the market-place, the drainage being exceedingly bad; there is scarcely any worse in the town, but the inhabitants there are very cleanly. Many of the inhabitants have their petties close to their back doors, and are obliged to carry the night-soil through their habitations. In the mention of cholera by Mr. Walker and Mr. Ball, neither of those gentlemen named *Green-head*. I have had several cases there. In 1847 land scurvy existed to a great extent amongst the needy, arising from the deficiency of fresh vegetable food. So much of Cobridge as lies within the parish of Burslem is within my district. In my own practice it has been comparatively free from disease. That extends over the whole 15 years, and up to the present time. I have occasionally had typhus fever there, but not very often. I have not met with a single case of cholera there, but some cases of diarrhœa and dysentery; I had fears that some of them might lapse into cholera. I think that an improved drainage of the town would do a great deal in warding off epidemic diseases and improving the health of the people, but their habits also need great improvement, and better health would be the result. Many of the cottages in the town are scarcely fit for human habitations. In some of these places a low typhoid form of fever is endemic. Persons in such situations, and of irregular habits, or in impoverished circumstances, are predisposed to take on active disease, and would sink under

an attack from which others in more favourable localities would recover. There are many friendly or sick societies in the town. The greater part of them are held in public-houses. I believe most of them are enrolled, with the exception of the secret orders. Many have medical officers. I am connected with a number of them. In few instances is there any medical examination of candidates for admission. The certificate of the medical officer is necessary to enable a sick member to obtain relief, and, in some instances, to his discharge from the books. The average amount of contribution is from 1s. 6d. to 1s. 8d. per month, and the payments to sick 6s. to 7s. per week for 6 months on the average. If the sickness continue a longer period, the pay is diminished to one-half. The usual amount of funeral-money is 10l. Many of the societies have been broken up because the contributions were not equal to the payments. Some of the clubs have been induced to increase the amount of contribution, and to decrease the amount paid to sick members in order to sustain the society. They have been founded upon principles of health instead of principles of sickness. The broken-up societies contained generally many old men who had paid for a great number of years, and were then thrown destitute in their old age. Sick societies have a very great interest in the sanitary improvement of Burslem. Some of these old men would have no other resource but the parish. Considering the further burdens brought upon the poor-rates by the generally excessive rate of mortality in the town, and the consequent widowhood and orphanage, I can have no doubt that the construction of proper sanitary works, with the consequent improvement in the habits of the people, would tend much to decrease the amount of the poor-rates."

The following is a copy of a Return as to the mortality in the parish of Burslem, showing the proportion of deaths to 1000 of the population, taken on an average of 7 years, 3½ years before, and 3½ years after, the census of 1841:—

	Population in 1841.	Deaths in 7 Years from 1838 to 1844.	Annual Mortality to 1000 persons living.
Burslem Parish, including Burslem Township, Hulton Abbey, Sneyd Hamlet, Rushton Grange Ville . }	16,091	2,707	24

(Signed)

GEORGE GRAHAM,
Registrar-General.

Having reason to fear that the sanitary condition of Burslem had become worse since 1841, I availed myself of the valuable assistance of Mr. Lowndes, who made such extracts from his registers as have enabled me to work out the following calculations respecting Burslem, and to compare them with similar conclusions as to the more favoured district of Penkridge, in the same county.

There was only a difference of 16 in the population of the two places at the last census; and it must be borne in mind that all the Burslem figures include Rushton Grange and Abbey Hulton, where the average registered mortality for the 7 years already named did not exceed $14\frac{1}{2}$ to each thousand of the population. It is my duty to state further, that the deductions as to Burslem for the year 1848-9 are from June to June, and therefore the deaths from cholera and diarrhœa, which became epidemic in the latter part of that month, are not included.

The mortality in the Registration District of Penkridge, in 1841, was $15\frac{1}{4}$ per thousand. In the parish of Burslem it was 24; and in the same parish in 1848-9 it had reached $27\frac{1}{2}$. The relative and increasing proportion of deaths from epidemics is equally appalling. In 1841 it was in Penkridge 1 in 595, and in Burslem 1 in 225; but in 1848-9 it had become 1 in 173. The excess in the number of all deaths in Burslem, when compared with Penkridge, in 1841, was 140 persons; but in 1848-9 the number had increased to 215. The duration of adult life in Burslem in 1841 was 7 years and 3 months less than in Penkridge; but in 1848-9 it was 8 years and 1 month less. It has been found that for every death in excess there are 28 cases of sickness in excess, costing not less than 20*s.* each; and that each funeral, including fees, coffin, and other necessaries, does not cost less than 5*l.* on an average. To this must be added the value of the labour thus lost from excessive mortality, which I have only calculated at the rate of 7*s.* 6*d.* per week for each person prematurely cut off, and the following is the result as compared with the Registration District of Penkridge:—

Parish of BURSLEM in 1841.

Excessive sickness	£3,920
Funerals in excess	700
Lost labour	44,135
	<hr/>
Total	48,755

Parish of BURSLEM in 1848-9.

Excessive sickness	£6,020
Funerals in excess	1,075
Lost labour	57,800
	<hr/>
Total	64,895

Having brought these statistics of the sanitary condition of the inhabitants of Burslem up to the period when the cholera broke out, I cannot avoid giving, as briefly as possible, the statements of those whose official duties brought them into immediate contact with the suffering poor. The Board will then see the condition in which the epidemic found its destined victims, and

the pecuniary consequences to those of the inhabitants who escaped its deadly influence.

George Baker, Esq., Chairman of the Board of Guardians, says in his evidence,—

“I am a member of the Sanitary Committée, and we have invariably found that, where the nuisances and drainage were worst and the accumulations greatest, the mortality from cholera was also greatest, and that the cholera abated after the temporary removal of the soil, ashes, and offensive nuisances. The first case of cholera was at Green-head, that of a man who died and left seven children, six of whom and the widow are now chargeable to the parish. We traced the cause to an overflowing privy cesspool close to his house, and running down by the door. That case was closely followed by another death in the same neighbourhood. From July last to the 22nd September we had 156 applications to the parish officers for relief on account of cholera, at a cost of about 250*l.*, including the expense of interments. I am convinced that the permanent charge entailed upon the parish will not be less than 300*l.* per annum, and it will certainly last seven years. *I expect also from the same cause a permanent accession of pauperism.* In addition to this there would be the payments for excessive typhus and other preventible diseases, which largely increase the burdens of the ratepayers. As Chairman of the Board of Guardians, therefore, I have no hesitation in saying that the ratepayers have a very great interest in this question, inasmuch as improved health would decrease the poor-rates.”

Mr. Lowndes furnished me with a street-list, showing the number of cases of cholera and diarrhœa, and the number of deaths, in each. I regret that I am unable to quote the table at length. The result is that from the 24th June to the 22nd September, four days before my inquiry, there had been 490 cases and 62 deaths. The return contains 55 streets and places, out of which 3 engross 97 cases, equal to one-fifth of the whole, and 18 deaths, equal to two-sevenths of the whole. *Those 3 places are Hot-lane, Hole-house, and Nile-street in its immediate vicinity—the localities of the plague which ravaged Burslem 200 years since.*

Mr. Lowndes concludes his statement as follows:—

“The late epidemic, like the visitations which preceded it, has been most virulent and fatal in the dirtiest and most crowded parts of the town; and, as was the case with the ‘Irish Immigrant Fever,’ which raged here two years ago, has thrown heavy burdens upon the ratepayers, and left many widows, fatherless children, and orphans, chargeable to the parish.”

LAND DRAINAGE.—The agricultural land in the parish of Burslem is very inadequately drained. Several evils are consequent on this—1st, the land is less productive than it ought to be; 2nd, there is too much moisture in the atmosphere of the town; and 3rd, the subsoil being clay, which resists water, a heavy rainfall is immediately discharged from the whole of the

drainage-area into the brooks, and floods the lower parts of the town, to the serious injury of life and property. Mr. Enoch Jackson, a farmer in Abbey Hulton, says in his evidence,—

“There is plenty of land in Abbey Hulton that would be improved by under-draining. The farmers have been neglecting their own interests in not draining their land. They have perhaps been too idle to do it; but the idleness of the farmer does not ought to be an obstacle to such drainage if the want of it is injurious to the health of the inhabitants.”

From my inspection, I am satisfied that, if the above is applicable to Abbey Hulton, it is equally so to a great portion of the agricultural land in the parish.

DRAINAGE OF THE TOWN.—At the opening of the inquiry the complaints were almost exclusively of bad drainage.

Stephen Hughes, Esq., complained that the sewer in the Flash is not sufficient to take away the refuse.

John Ward, Esq.; solicitor, as churchwarden of Burslem, complained of the open drain or brook-course adjoining the churchyard wall, and that in Barn Croft the drains are very deficient. Dr. *J. W. Moseley* also complained of the drainage of the same localities.

These places will be noticed as they occur in the following extracts from the minutes of my inspection of the whole of the parish.

At Mr. John Parr's property, in *Kiln Croft*, the Inspector of Nuisances said that when heavy rain comes it bursts up the drain below, and the night-soil and refuse overflow.

At *the Flash* there are most offensive accumulations and filthy pools of night-soil. There is an old cottage without any privy, and the people have to sit down behind the house, in the open air, to obey the calls of nature. The door of the house is only 5 yards from the head of the main sewer, and it frequently overflows.

Widow Llewellyn is the occupant of the house, and says,—

“My floor is very damp. The water has been in nearly a yard high. We have got no privy. We have no water but what we beg. I am very ill. I was taken two weeks ago. The cottage is my own, and I have 2s. per week from the parish.”

Another widow, *Sophia Whitmore*, says,—

“I have lived here 26 years, and the rent is 1s. 6d. per week, but the landlord is very good and does not press me. We are flooded sometimes, and have been forced to be out of the house a night or two in a week. The water has put out the fire, and been all like a sea. I have a daughter ill now in bed. She was taken with the cholera a month since to-day, and has not recovered. We have no privy; it was nearly washed away and then blown down. We fetch water a quarter of a mile, and get two or three cansful a-week. We go to a well just above for common water, and use about a canful per day. I have a daughter who works and gets me 5s. per week, and I have 1s. and a 4-pound loaf from the parish for my-

self, and the same for my daughter who is sick. I am very poorly myself, and was to have gone to Mr. Goddard, the parish doctor, this afternoon. I have rheumatism in my legs and a pain in my side. I am 69 years of age." ;

The drain in front of these houses is partly open and partly covered, but entirely stagnant. The cottages are very dilapidated, and some of them have drains under the floors.

I examined the brook, which is common to, and divides the township of Burslem from Rushton Grange. Mr. Baker said it was frequently in an offensive condition.

At *Barnfield* (Bruce and Large's property) the privies belonging to 8 houses drain into a cesspool, which has an overflow drain breaking out to the surface just below the houses. It is complained of as a great nuisance. The grass where it had run was long and of a beautiful green, contrasting strongly with that which had not come in contact with the sewage.

Hot-lane Brook has an open course, and is said to be, at times, very offensive, but I was informed that it is about to be arched by the proprietor.

Pleasant-street is entirely built on land that has been raised by absorbent rubbish from the Potteries: the houses have cesspools. There is no sewer or underground drain, and the soil is now saturated with refuse. There have been 6 cases of cholera in about 6 weeks. The houses are nearly new.

In *Hole-house* I examined the premises occupied by Mary Belfield, and found a foul open drain at the back. She has a daughter 25 years of age who has been ill of fever 6 or 7 weeks, and is not well yet. Thomas Pass, lodginghouse-keeper, who lives near there, has had several cases of fever in his house recently.

Another house has a drain 18 inches wide immediately under the floor, but open at the door-stone. The house is now unoccupied, but was tenanted some time since by 3 persons. Samuel Machin lives next door, and his wife has had the cholera. Widow Bentley came out and complained that a drain came under her kitchen, and that—

“ At times the stench is so bad it is enough to knock a horse down.”

On the north-east side of *Waterloo-road* there are privies with close cesspools, and the refuse runs over the surface of some unbuilt land behind. It is complained that the children, when playing, get up to the knees in it. On the same road, in Rushton Grange, are many of the best houses in the town, but the drainage is so bad that only one has a water-closet, and in that case a cesspool is made use of.

At *Cobridge*, opposite the National School, the sewer is stopped up, and Mr. James Nicklin, owner of an inn there, has his cellars

flooded. He has had it opened from the surface in ten places, and ascertained that Mr. Hales, below, has put down a barrier, and takes the sewage into a pond within his premises to supply his steam-engine. The refuse is dammed up for a distance of about 150 yards. On my remarking, to those who accompanied me, that, irrespective of the nuisance thus occasioned, and the injury inflicted on other people, the solid matter deposited in the boiler would occasion its destruction, and possibly a serious explosion, I was informed that such a catastrophe had taken place, and Mr. Lowndes has since communicated the following

“*Memorandum.—Burslem.*”

“COBRIDGE.

“The boiler of the steam-engine at the iron-works of Mr. *Lewis George Hales*, at Cobridge in the parish of Burslem, blew up early in August, 1848, and two persons named John Rhead and George White died in consequence. A very considerable incrustation was found upon the bottom and sides of the boiler, and the bottom was much burned.

“George White died on the 18th August, 1848, and left a *widow*, named Maria, and *seven children*, who have since been in the weekly receipt of relief from the *parish of Burslem*.

(Signed)

“J. LOWNDES.”

Mr. Hales is very anxious that Cobridge should *not* be included in the district for the purposes of the Public Health Act.

Ford Green, Mr. Charles Hales' property.—A foul drain runs longitudinally within 6 or 7 feet of the houses. It receives the night-soil from all the privies, passes into the sewer just described, and lodges the refuse in Mr. Hales' pond.

Hales-square.—Has a very bad surface-drainage. *James Hammersley* occupies one of the houses, and his wife says,—

“The filth comes down to the front of the door, and almost poisons us. When there is heavy rain we are frequently flooded out. It runs quite through the house; we have to carry it out in buckets, and the mudge lays up to the ankles. The refuse from the privies, and the suds from washing, lay in front of these 5 houses, and are unbearable. A child belonging to one of the houses fell into the long open cesspool which receives the drainage of the privies, and was nearly drowned.”

At Acton's property is another foul open stagnant cesspool, and no drainage.

Hot-lane, in Sneyd.—There are privies behind the houses, with open cesspools, which are very offensive, and in rain the refuse flows into a pit from whence the inhabitants obtain water for domestic cleansing.

The *Old Bag*, at Dale-hall, as its name denotes, is a *cul-de-sac*. Behind the property of Elijah Lucas, and others, there is a horrible stagnant ditch, giving off large quantities of sulphuretted hydrogen gas; it runs along the backs of 12 houses, and all the drainage from them and their privies lies in a semifluid condition.

The privies are foul, the surface of the yard bad, with manure-heaps from stinking piggeries, and the water for cleansing is obtained from an uncovered well on the premises. For food the water has to be fetched a distance of a quarter of a mile.

The *New Bag* is a narrow street, with all the privies in front of, and close to, the houses on both sides. The night-soil oozes out through the walls, and runs on the public footpaths. There is no sewer, and the refuse finds its way along the surface-channels into a pool by the roadside, near the bottom of the street. The stench is bad, and all the people I saw there looked pallid and unhealthy.

Mount Pleasant-street is also a *cul-de-sac*, unpaved and undrained; nearly the whole surface seems saturated with refuse.

Dale-hall, Newcastle-road, has an underground drain, but it is not well constructed, and the grates are untrapped. There is one in front of the shop occupied by Mr. *William Ford*, butcher, and he says,—

“Before rain it is very offensive. Privies are said to drain into it. I have frequently seen people go past the shop and turn up their noses, and I have understood that they would not buy meat of me, because they thought it stank. I have no doubt it has been a great loss to me.”

Prince's-square, at Longport, contains 25 houses, and there are about 13 more outside, near the railway station. They have no drainage. All the privies are without traps, and pour their contents into cesspools which are only covered with slabs.

Frederick-street has no drainage; and the same may be said of *Mayer's-row*, spoken of by Mr. Ball, in his evidence, as a locality of scarlatina. There are 12 privies near to the houses.

At *Haywood's-place*, Back Sytch, there are 10 houses nearly new, the rental about 6*l.* 10*s.* each, and the situation naturally healthy, but there was cholera in one or two of the houses. The neighbours complain much of the filthy condition of a stagnant ditch about 21 feet behind the houses. They say that the landlord will not do anything to improve the drainage, but tells them they must collect and do it themselves.

John Findler's wife, one of the tenants, says,—

“We have to lade all the filth, rain-water, soil, and drainage from the yard, and throw it over a wall.”

Mr. *Thomas Heath's* property, below, is in about the same condition. The drainage at the *Barracks* is in a very deplorable state, and quite incompatible with the good health of the force stationed there. The drains lead to cesspools and are untrapped. There are only 3 privies for the accommodation of 170 men, besides women and children: the smell is very offensive. There is another privy in the officers' yard connected with a cesspool, only covered with folding doors, which, on being raised, disclosed a surface 6 feet by 6 feet of putrid nightsoil, from which large

quantities of injurious gas were escaping. In *High-street*, at Mr. William Pointon's property, there are not even cesspools to the privies used by 10 houses, but the liquid nightsoil and filth spreads out into a pool about 30 feet long and 9 feet wide.

About the Market-place the drainage is as bad as in any part of the town. The filthy water has to be pumped out of the cellars of the Old Crown inn, across the footpath. Mr. William Copeland, wood-turner, has a drain from the privy through the passage and into the surface-channel of the street. Mr. Taylor, grocer, and the Nelson inn are drained in the same way to the street. Mr. Timmis, stationer, and his neighbours, have no drainage. The privies are foul, and several empty into an open cesspool. The whole remains stagnant, and yet the inclination of the surface is 1 in 12. Mr. Gleaves, bootmaker, has to carry all the refuse and washings out of his premises and pour them on the surface.

Mr. *Henry Hesketh*, Assistant Surveyor of Highways, says,—

“The sewers are of all forms and sizes, in some places 4 or 5 yards deep, and in others a yard. There must be entirely new sewers in Burslem, if any good is to be done. They have been made anyhow, and by anybody. A few have been made by the Board, but without any plans or sections. No plan exists showing the sewers, or their sizes or depths. I could tell where the greater part of them exist, if we were to go over them. There are no traps to the grates, and few houses drain into the sewers. They blow up sometimes. The outlets are into the brook and the canal.”

Mr. *Enoch Jackson* says in his evidence,—

“The houses belonging to Samuel Steele have stagnant water lying in the valley, near to their doors. The nightsoil runs from the open privies into a field occupied by Samuel Fenton, without any cesspools, many of them exposed to the open air. They are somewhere about 10 yards from the houses. The greater portion of the houses are north of the privies, and the south wind, which is generally warm, would blow from the privies to the houses. The road in front of these houses was raised about 4 feet above the houses; that was done before my time but it is the reason why the water cannot be got off in wet weather. It could be very easily got away, and I do not know why they have not done it. There can be no doubt that a drain would be an improvement, and yet it has been in its present state as far back as I can recollect; I should consider it more the duty of the surveyor than anybody else to do it, as far as my knowledge extends, but it has not been done. I think there ought to be an authority to compel it to be done.”

Edward Walley, Esq., says in his evidence,—

“I have been a ratepayer of Cobridge, in Rushton Grange, for several years. I hold two earthenware manufactories there, and employ from 300 to 400 hands. I am well acquainted with all parts of Rushton Grange, and with Cobridge in particular, and also with the inhabitants. I am acquainted partially with the sewerage and drainage, and think it sufficient considering the population. I give no opinion

as to Abbey Hulton. The natural situation of Cobridge almost prevents the necessity of public sewerage. It drains itself on all sides."

Mr. *John Pidduck* said,—

"I reside in Rushton Grange, and do not think it possible to drain a water-closet in any part of the ville. I have one, but am obliged to drain it into a cesspool, which has to be emptied frequently. My house is one of the largest in Waterloo-road, and there is no sewer in the street, though it is built on both sides, and a principal road. The effluvia from the brook, which divides Rushton Grange from the township of Burslem, is very bad. The foul water from all the houses there in Rushton Grange has no proper course, but runs down the surface and into the brook. The refuse from the Burslem side also comes down to the same brook, which is common to both. There is no cleansing of the roads either in Rushton Grange or Burslem."

Mr. *Baker*, in his evidence, says,—

"After a careful inspection of the whole town, the Sanitary Committee were convinced that the Nuisances Removal Act did not give sufficient power to enable us to cope with the present condition of Burslem, and that the Public Health Act was the only means available. The members of that Committee were among the prime movers in the requisition to the chief constable to convene a public meeting of the parish on the subject. The result of that meeting was, that the parish coincided with us in opinion. The general conclusions to which we came were that the town was wanting in drainage and water. Heaps of filth of an offensive character were suffered to accumulate in various parts of the town. Open cesspools were found in great numbers of the streets; and though a paid inspector was appointed for the purpose of reporting weekly to the Board what steps had been taken for the abatement of these nuisances, we found that, with few exceptions, all that the parties concerned could do must be of a temporary character, arising from the want of proper public drainage and a sufficient supply of water."

The evidence of the Rev. *H. W. Gleed Armstrong* is very important, and though it embraces incidentally several other topics, besides the want of drainage and its consequences, I prefer giving it entire. He says,—

"I am curate in charge of the parish of Burslem. The rector is non-resident. I am well acquainted with the habits and condition of the inhabitants, more especially of those residing in the district now reserved to the parish church. When I came to Burslem I found the population in a very degraded state, and great physical discomfort and deprivations prevalent. That state of things existed before the depression of trade, though increased decidedly by such depression. The supply of water has been hitherto very defective, and the houses, and indeed the greatest portion of the town, are without drainage. I connect the low state of morality among the working population with their lamentable physical condition, having, during an experience of 22 years as a parish clergyman, always found the latter to have a manifest effect upon the former; and whenever circumstances have arisen calculated to

improve their physical condition I have always found increased facilities for the exercise of my pastoral office. I do not think the people are naturally dirty; the untoward circumstances in which they are placed have caused their present state. The sewer which conveys a great portion of the drainage, now removed in underground channels, flows into the canal, and is most offensive. I have seen the gas bubbling up in the open channel near the canal. I am sufficiently acquainted with the Public Health Act to know that it provides remedies for many of the evils I have enumerated, and I have long been anxious for its application to the parish of Burslem."

I need not add to what has been already stated from my own inspection and the evidence of persons of all classes and ranks in society. The Board will be convinced that the drainage of the inhabited part of the parish of Burslem is in a most deplorable condition; and that such drains as exist generate disease, instead of removing its causes.

WATER SUPPLY.—The miserable expedients which the inhabitants have been compelled to adopt, and the great labour undergone, to obtain a scanty supply of water, have already incidentally appeared as being connected with other sanitary defects in Burslem. I have also quoted the titles of two local Acts of Parliament for supplying the Pottery towns with water. The works constructed under those Acts are now nearly completed, and therefore it will be unnecessary to occupy much time in considering the deprivations of the poor in this respect at the time of my visit. Some few additional facts on the subject will account for the extensive accumulations of decomposing animal and vegetable matter in the town, and may also enable some of the inhabitants to appreciate more fully the great boon conferred upon the community by the construction of the new water-works, especially if the supply be given under the powers of the Public Health Act, and controlled by a local Board elected from among the ratepayers of the district.

In *Kiln Croft*, at Mr. John Parr's property, one of the tenants, *Samuel Bolderson*, says,—

"I pay 2s. 4d. per week rent for a house, and 2 lodging-rooms. We are 12 of family, and fetch water from any place where we can get it. We should be a great deal cleaner if we could get more. We pay $\frac{1}{2}d.$ for 2 cansful. I keep 2 pigs, and have to fetch the water to wash the sty a quarter of a mile."

Just below the parish churchyard, near where the two brooks unite, is a public well, from whence the water is fetched great distances. I was informed that sometimes the brook runs into it. While I was near the place, a woman came by with two cans full of the water, which she was carrying into the town. I examined the water, and found it very filthy; but she said it was good now compared with what it is sometimes.

At *Sylvester-square*, in Sneyd, there is a local supply from other property belonging to the same owner. This has been a locality of fever and cholera. *Thomas Johnson* is the tenant of one of the houses, and his wife says,—

“We get water from a tap outside the houses. One tap supplies above 30 houses. It ought to come on Mondays, Wednesdays, and Fridays, and it sometimes remains on all day, but at others only a very short time. We have been as long as five weeks without any water. That was in summer. It frequently fails to come on regularly in summer, and we then want more water than in winter. We have to go about a mile for water when it does not come on. I and my daughter have had a fever, and I am not well yet, though it is 5 or 6 weeks since we began. The same fever, and also scarlatina, has been in the next house.”

Willetts-court, in Queen-street, contains 20 houses, and the inhabitants complained that they had no water but that from a deep well in the yard,—that it was not fit to drink,—and the only means of obtaining it was by a jug and long string.

Mr. *Enoch Jackson* says in his evidence,—

“The Sneyd Green people fetch a good deal of water from our house, a distance of half a mile. They carry it in pails on their heads. I only allow the same persons to come once a-day for a pail, because we have not sufficient for them to take more. They would come for more if I would let them. They must be very careful of water in summer on account of the distance they have to carry it. *The service reservoir of the Staffordshire Potteries Waterworks Company is being constructed on my farm, and the main pipes will pass the whole of Sneyd Green.* Those houses may then be supplied constantly with water. I do not know that they will be compelled to take it, but I am aware that the Public Health Act would provide for a compulsory supply where necessary.”

Mr. Walley also says that the supply of water at Cobridge is very deficient, but that a plentiful supply will be given by the Company.

As the new waterworks were not brought into operation at the period of my visit, I think it better to consider the proposed supply in the latter part of this Report as a remedial measure for improving the sanitary condition of the inhabitants.

INSURANCE, FIRES, AND MEANS OF EXTINGUISHING THEM.—

Mr. *J. W. Powell* says in his evidence—

“I am agent to the Norwich Union Insurance Office. The cottage property in Burslem is not generally insured. The better class of houses and manufactories are insured. The manufactories are a special rate. The drying-rooms are dangerous, and, for some, hazardous. At present the means for extinguishing fires are very inadequate. It is generally matter of accident whether there is water or not. I should think there will scarcely be an average of 2 fires per annum; they are not frequent; I think the largest was a loss of 600*l.* or 700*l.*; the majority from 10*l.* to 150*l.*

As far as my experience has gone, the greater part of the injury has been done before the engines could be brought to the place and got to work. There are 2 engines in Burslem belonging to the Commissioners under the local Act, and 1 at Cobridge and another at Longport belonging to the same body. There are 3 fire-brigades of about 40 men altogether. If there could be fire-plugs fixed under the Public Health Act, with hose and pipes always ready to act night or day at a moment's notice, not only in the streets but upon the premises of every manufacturer, there can be no doubt that the risk of fires and destruction of property would be very much diminished, and that the insurance companies would be able to lower their rates."

VENTILATION OF STREETS AND COURTS, AND CONSTRUCTION OF HOUSES AND THEIR APPURTENANCES: CONDITION OF LODGING-HOUSES.—I have already mentioned several streets and places that are not thoroughfares, and there are others which admit of little or no ventilation. In Burslem, however, as in other towns, the want of external ventilation is most observable in the court-yards, where the object has frequently been evidently to place as many tenements as possible upon the ground, without any consideration whatever for the free passage of air through the premises. There are also many very dilapidated cottages in the older parts of the town, quite unfit for human habitations. The newer cottages are of a much better description, but many of them crowded to an extent not consistent with the health of the inmates. Few of the houses occupied by the poor have more than two bed-rooms, and, where there are parents and grown-up children of both sexes, the result must be inevitably that those feelings of moral delicacy, which ought to be most carefully watched over and preserved, become blunted, even when worse consequences do not follow. The same remarks are applicable to deficient privy accommodation, and to the almost general want of privacy, decency, and cleanliness which ought to characterize such places. These defects in Burslem were forcibly brought under my notice during the inspection of the town, and several instances have been already alluded to. In the *Lower Hadderige* the privies are close at the backs of the houses, where there is no ventilation, and the night-soil has to be carried through the houses, the same as already described in the *Upper Hadderige*; but the people here are more clean, and there had only been one case of cholera at the time of my visit. The rent of the houses is 2s. 4d. per week each, and the cost of removing the nightsoil through the houses 1s. 6d. per year.

Malkin's property, at *Green-head*, consists of 6 houses, letting at 2l. per annum each, but they have no court-yard or back premises, no water, no privy, nor convenience of any kind. The occupants use chamber utensils, and empty them into the street. They also throw their ashes and other refuse upon the road.

At *Green-head Side*, Mr. Peter Hopkins's property has 2

dilapidated privies. One of them has no seat, and the other is in a very foul condition.

These defective arrangements are not confined to the poor, but some of the most valuable property in the centre of the town is crowded behind, so that ventilation is impossible. In the market-place on the upper side there are 6 front sale-shops, with only 1 offensive privy for them all. It is placed under a building, and adjoins the kitchen of one of the houses. I inquired the rental of these 6 houses, and found it to be an aggregate of 255*l.* per annum.

On this part of the subject, the Rev. *H. W. G. Armstrong* says in his evidence, —

“The construction of many of the cottages is such as not to afford sufficient sleeping room; many of the houses are much dilapidated and uncomfortable. The privies and appurtenances are generally close to the doors, with cesspools to contain the nightsoil, and they are not only injurious to health, but indecent, and tend to produce immorality. Drunkenness in both sexes is the prevailing sin here, and leads to all other vices. I think the men are often driven to the beer-shop owing to the discomfort of their homes.

“I think it highly important that the lodging-houses should be placed under such regulations as are provided by the Public Health Act. In many of them illicit distillation is carried on. They are scenes of dissipation and immorality, and the resort of the most profligate characters.”

The personal inspection of 13 of these houses, after the inmates had retired for the night, is sufficient to prove them the greatest hotbeds of filth, disease, and vice. I must confine my remarks to the condition of two or three of them.

In one at the Holehouse, kept by Thomas Pass, whose wife had died of cholera 12 weeks previously, I found in one small room 8 persons in 3 beds, with only 136 cubic feet of breathing-space for each person. In another room in the same house there were 7 males and 6 females in 6 beds, with 163 cubic feet each.

At Mayer's-bank, in a house kept by William Beckett, there were in one room 4 beds, occupied by 5 males and 3 females, with 162 cubic feet of air each.

In a house kept by John Lofty there were in one sleeping-room 5 beds, occupied by 9 males and 4 females, with only 59 $\frac{3}{4}$ cubic feet of breathing-space for each person; and in another very small room in the same house 2 beds containing 5 persons, with only 87 cubic feet each.

When it is considered that these wretched people generally sleep in a state of nudity, and that their filthy clothing is thrown over them for warmth, while every crevice that could admit the external air into the room is carefully stopped up, it will be easily conceived that the effluvia must be most disgusting and injurious.

There can be no doubt that contagious and infectious diseases are engendered in these places, and thence spread among the inhabitants of the town. Apart from the fact that the persons who resort to such places generally lead idle and dissolute lives, preying on the community at large, rather than earn an honest livelihood, it must be evident that a due regard to public health imperatively requires that these lodging-houses should be placed under the surveillance of a proper local authority, and subject to licence and inspection as to the cleanliness of the rooms, the number and character of the occupants, and their general sanitary condition.

CONDITION OF THE ROADS, SURFACE-CLEANSING, &C.—The township of Burslem, the hamlet of Sneyd, and the lordship of Abbey Hulton each repair their own highways. The ville of Rushton Grange does not repair its highways; the principal roads there are turnpike-roads, repaired by trustees. The average amount levied in Abbey Hulton is 9*d.* in the pound per annum, while the average of 5 years in the township of Burslem is only 5*d.* in the pound.

Mr. *Josiah Wolsincroft Powell* is Clerk to the Board for the Repair of the Highways in the township of Burslem, and says,—

“There are about 3 miles of turnpike-road in the township repaired by trustees, but the footpaths alongside of them are repaired by the Board, except in the market, where they are repaired by the market trustees, under the local Act. The total length of highways repairable by the Board is 3 miles. The amount in the pound, levied on the average of the last 5 years, is 5*d.* The average income for the same period is 410*l.* 4*s.* 5½*d.*, and the expenditure 409*l.* 17*s.* 8½*d.* The rateable value of property in the township was 26,929*l.* in August 1848. Hard blue bricks are used for the public footpaths, and cost 50*s.* per thousand delivered. The common house-brick costs only 30*s.* The price for laying down footpaths is 6*d.* per superficial yard, including the preparation of the ground, and the number of bricks to a yard is 32, making a total cost of about 2*s.* 2*d.* per square yard. Some parts of the footpaths are formed with ashes obtained from the burning of ‘cannel’ or argillaceous ironstone. For crossings we use paving-stones obtained from Macclesfield, about 20 miles distance, by canal. They cost 9*s.* 3*d.* per ton, including cartage. They have been used on the carriage-ways by the market trustees, but not by the Board, except for crossings. The stones are 8 to 9 inches deep, and 7 to 8 inches wide. The cost of preparing the ground is about 6*d.* per square yard, and the paving about the same. 3 yards of the stone would weigh about 22 cwt.”

Mr. *Henry Hesketh*, Assistant Surveyor to the Board, and Surveyor to the Turnpike Trustees, says—

“I have had the management of the roads in Burslem ever since the present Highway Act came into operation. I have now no doubt that the Macclesfield stone would last in one of our principal thorough-

fares, 20 years on the average. We use quarry-stone for the macadamized roads. It is from Gawsworth, near Macclesfield, and, brought by canal, costs, ready broken, including cartage, 5s. 9d. per ton. The stone ought to be broken down to $2\frac{1}{2}$ inches maximum and $1\frac{1}{2}$ minimum. The spreading and subsequent attention is done by the day. I should think it must amount to 3d. per yard for a road not very much used. We generally cover about 4 inches to $4\frac{1}{2}$, and that will stand two winters with a little patching. In addition to this expense there is the scraping. Square pavement would wear until it was reduced to about 4 inches deep.

"There is no public cleansing but by the Board of Surveyors, except in the market. With the same exception there is no watering of the streets. The courts are not attended to at all. As to the cost of materials and labour, and the mode of repair, the same evidence will serve for the other parts of the parish. I have seen roads made of gas concrete. There are several in Newcastle-street and in Queen-street that have been formed somewhat in that way. I think they have answered pretty well and given general satisfaction."

W. S. Kennedy, Esq., Chief Constable, says in his evidence—

"I most fully concur in the general feeling that the provisions of the Public Health Act should be applied to the parish at large. There is one fact with respect to the application of the Act to Rushton Grange which I think should be brought before your notice, namely, that the footpath in the greatest thoroughfare in the parish was in a most disgraceful state last year. I allude to Waterloo-road; and, as the highway authorities had no power to act, we were under the necessity of entering into a subscription, which, including assistance from the neighbouring town of Hanley, amounted to near 400*l.*, in order to get one of the side footpaths paved with bricks. I am aware that a local Board of Health would have jurisdiction over the highways, with ample powers, and therefore under its operation no such necessity for private effort in addition to the usual rate would again arise."

BURIAL-GROUNDS.—The parish burial-ground, including the site of the church, contained, until 1848, only $2\frac{1}{2}$ acres. At that time it was found to be so crowded that an additional acre of land was added and consecrated at the public expense. With the exception, therefore, of such family graves and vaults as have not been opened for many years, the new part of the ground is the only available portion for burials. The area of the burial-ground attached to St. Paul's including the church is 3 acres. Interments only commenced there in the year 1831, and it is therefore not in so crowded a state, but the parishioners, numbering above 17,000, have no right of interment there. The average number of interments in St. Paul's from 1831 to 1848 inclusive is 155; and it would take 311, or twice the number, to turn over the whole of the ground once in 20 years; but the subsoil being clay, and the burial-ground in the midst of the living population of the town, are serious objections, not only to its becoming more generally used, but to its continuance as a place of interment.

The average number of interments in the parish churchyard for 20 years ending 1848 is 244. Now this number of bodies per annum would completely fill the new part of the burial-ground with graves in $8\frac{1}{2}$ years. The same objection lies against the soil, and the situation of the ground with respect to the population of the town.

At the opening of my inquiry it was urged, as one reason why Abbey Hulton and Rushton Grange should not be brought under the operation of the Public Health Act, that they contained no burial-grounds; and in answer to my questions it was stated that, though the general feeling throughout the country had set strongly against intramural interments, it was the practice in Burslem not only to bury the inhabitants of the town in the midst of the living, but to bring the dead from all the suburban and country parts of the parish into the town for such purpose. As to the parish burial-ground the Rev. *H. W. G. Armstrong* says,—

“There are two burial-grounds in the parish accessible practically to all parishioners. The old part of the parish churchyard is crowded, and not much used for interments now. The new part, containing one acre, was enclosed in the year 1847. The land was bought by rate, and it has been consecrated. It is indifferently drained. The soil is a retentive clay, and in some parts water would be found at 4 feet deep: 6 feet is the minimum depth of the graves. Where those who have died of cholera are interred the ground is more dry.

Mr. *Kennedy*, the Chief-Constable, says in the conclusion of his evidence,—

“I am strongly of opinion that a public cemetery at a convenient distance from the town would be a great improvement. The burial-grounds attached to the churches are in the midst of the population; they are crowded and not sufficiently extensive. There is only one burial-ground belonging to the dissenters, and it is so small and full as not to admit of further interments.”

GAS-WORKS.—*George Baker, Esq.*, says—

“I am one of the directors of the gas-works. The works are not fully registered under the General Joint Stock Companies Act. There are 1177 shares of 5*l.* each, and they are now at par. The present price of gas is 5*s.* per 1000 cubic feet; it was 6*s.* 8*d.*, and the shares were then at a premium. Nearly the whole consumption is by meter. Gas is not much used in manufactories. There are 160 public lamps, contracted to burn batwing lights from the 1st of September to the 30th of April, three nights before each full moon, and one after, excepted. The price is 2*l.* 17*s.* each. 9 retorts are employed in summer and 15 in winter. The general price of house fire-coal is 8*s.* 6*d.* per ton, but that used for making gas costs 12*s.* Two tons will produce about 25 cwt. of coke, which is readily sold at 10*s.* 6*d.* per ton. Lime costs 13*s.* per ton, and we have some difficulty in disposing of it after use at 1*s.* It is equally difficult to get quit of the tar at 5*s.* per ton. We have used it with coke in the retorts, but do not now. The ammonia-

water is burnt to get quit of it. We have no positive authority to break open the streets, but merely a permission. I have very little doubt that the Company would be willing, on equitable terms, to transfer the works to a local Board of Health.”*

OBJECTIONS TO THE APPLICATION OF THE ACT TO THE WHOLE PARISH.—I have already stated, at the commencement of this Report, that some of the inhabitants of the lordship of Abbey Hulton and the ville of Rushton Grange objected to the application of the Act to their portions of the parish, and have mentioned the grounds of objection then named. Some of the evidence adduced has been since given herein, especially the low rates of mortality in those places when compared with the township of Burslem. Upon this great reliance was placed. It was ultimately agreed that the dissentients should embody their objections in a memorial; and as that document fully states the views of the persons whose names are appended to it, I think it better now to allude briefly to the reasons urged therein, so that the Board may have the whole subject before them at once for consideration.

I feel it my duty to say that the opposition was conducted throughout in the most courteous and gentlemanly manner towards myself as the representative of the Board, and that the memorial for the consideration of the Board is couched in the most respectful terms.

I have numbered the paragraphs in the margin of the memorial for more convenient reference, and shall use such numbers in the remarks I may think it necessary to make. I have not thought it necessary to notice every paragraph, as the document is before the Board.

Extract from Memorial.

7. That, with respect to sewerage and drainage, the ville of Rushton Grange is, for general purposes, sufficiently supplied, there being underground drains of considerable bore, varying from nine inches to two feet six inches, in the principal thoroughfares, which are but few,

7. Rushton Grange really forms part of the town of Burslem, and unites it with Hanley. It is only separated from the densely populated part of the township of Burslem by a brook common to both. The two are united by a continuous street containing some of the best

* I have since received a communication from Edward Walley, Esq., of Cobridge, in which he says,—“The price of coals is very much lower now, and in this district is likely to be still cheaper. The town, and more especially Cobridge, is very unfairly and partially lighted. More gas would be used in the manufactories but for the distance many are from the mains. The public lamps are very ill attended to, great injustice being done to the ratepayers by the lamps being lit not more than half the time agreed for, being put out in many cases by midnight, and in the winter evenings lighted very late. I believe the shares pay 10 per cent. If the Health of Towns Act is introduced, by all means it should embrace the lighting, to prevent the great acts of injustice suffered from the hands of the gas company:—instance many populous districts and main thoroughfares not having a single light or main.”

and its situation on the summit of a hill gives a rapid fall, and prevents the possibility of its being at any time flooded.

8. That, in the lordship of Abbey Hulton, the country roads are well drained by side-ditches, and the lordship being agricultural, as before stated, the principal drainage required is "under-drainage," necessary rather for the improvement of the land than for the benefit of the public health, and of which an extended system is now in progress, under the requirements of the principal land-owner in the lordship.

10. That there is no burial-ground in either the ville or the lordship, the inhabitants having acquired a right of burial by long usage at the parish church in Burslem.

11. That the sanitary condition of the inhabitants of Rushton Grange and Abbey Hulton is unusually good, compared with that of the neighbouring townships, owing to their airy and lofty position, enjoying a peculiar exemption from all epidemics and disorders engendered by malaria; and that, although the cholera has been rife in the township of Burslem, not a single case has occurred either in Rushton Grange or Abbey Hulton, for proof of which your Memorialists beg to refer to the medical testimony given at the court of inquiry referred to.

12. That an Act of Parliament, passed in the sixth year of the reign of his late Majesty George the Fourth, intituled "An Act for

houses in the town, and a considerable and fast-increasing part of the population of Rushton Grange reside near the bottom of the hill, and would be called inhabitants of Burslem. The result of my inspection, and also the evidence, prove that the houses and streets in Rushton Grange are not well drained.

8. After careful consideration, I think that the lordship of Abbey Hulton may be left out of the district, the land being agricultural, with only 800 inhabitants to 1600 acres. The lordship projects eastward like a tongue beyond the precincts of Burslem proper, and is almost separated from it. It is also almost entirely unconnected with the common drainage-area of the other portions of the parish, I refer to the map accompanying this Report.

10. Under the head of "Burial-grounds" I have mentioned that the dead are brought *from the country to the town* to be buried.

11. The memorial states that there had been no cholera in Rushton Grange, but the returns show 12 cases of choleraic diarrhœa and dysentery, beside two fatal cases, one of diarrhœa and one of cholera.

12. Abbey Hulton is beyond the jurisdiction of the local Act of Parliament for watching and lighting, &c.

Regulating the Markets in the Town of Burslem, in the County of Stafford, and for Lighting, Regulating the Police, and Watching the said Town of Burslem and the Villes of Longport, Cobridge, Sneyd Green, and parts adjacent, in the Parish of Burslem," extends to Cobridge, being the only part of Rushton Grange and Abbey Hulton where lighting is necessary, and which now enjoys, to some extent, the benefit of the Act, though, as will presently be shown, that benefit was long denied to it by the people of Burslem.

13. That the principal thoroughfares in Rushton Grange are turnpike trusts, and consequently the duty of cleansing them is vested in the various trustees, which would still be the case even if the Public Health Act were introduced.

17. That, in the opinion of your Memorialists, the relative positions of Rushton Grange and of Burslem seem to forbid the carrying out of any connected sanitary operations, even in an engineering point of view; being seated on the tops of opposite hills, between which, and forming the boundary between the same, runs one of the streams before mentioned.

18. That your Memorialists objected to the introduction of the Public Health Act into their ville and lordship in connection with Burslem, inasmuch as thereby they would become liable to contribute to the rates laid by the local board there, for such objects as would, under the Act, be chargeable upon the general district rate; such as—

The costs of preliminary inquiries previously to the application of the Act.

The expenses attendant upon election of local boards.

13. The trustees, if required to cleanse at all, which is very doubtful, are only so liable as a matter of repair, and not on sanitary grounds. Their Act of Parliament does not take away the liability of the inhabitants at common law both to repair and cleanse the roads.

17. The reasons here given why the township of Burslem and the ville of Rushton Grange should be separated, are strong reasons, in an engineering point of view, why they should be united, because they are connected together by building operations, and drain into one common stream.

18. If the inhabitants have to contribute to the general district rate, it must be because the objects for which the rate is levied are beneficial to the *whole* district; if it were proved that Rushton Grange would not derive any benefit from any particular expenditure, it must be exempted from payment, and the charge become a special district rate on the other parts of the parish placed under the Act.

Salaries under the Act.

The expense of surveys, maps, and plans ;

Of draining or cleaning ponds, pools, open ditches, &c., at discretion of local board ;

Of maintaining public necessaries.

The expenses attendant upon the alteration of gas-pipes, &c.

And the compensation for damage occasioned by the local board, &c. &c.

And which, in the opinion of your Memorialists, would, in so extensive a parish as that of Burslem, amount annually to a large sum of money, from the expenditure of which your Memorialists might derive no benefit.

19. And that, in the opinion of your Memorialists, the application of the 50th section of the Public Health Act to their ville and lordship (each of which contains less than 2000 inhabitants, and is therefore within the scope and intention of that clause) would alone, or at all events in connection with the Nuisances Removal Act, be amply sufficient for all sanitary purposes.

20. And it was also stated in evidence tendered by your memorialists, that, if the Public Health Act were introduced into Rushton Grange and Abbey Hulton, those places could not be advantageously included in the same district with the townships of Burslem and Sneyd, and that the feeling of your memorialists, and of the inhabitants of Rushton Grange and Abbey Hulton generally, was, indeed, more strongly directed against its introduction into those places as part of a district for sanitary purposes, with Burslem for its centre, than against its application to them alone, in con-

19. If the 50th section of the Public Health Act is not already inapplicable to Rushton Grange, it will become so as soon as the population shall exceed 2000, which must be within a few years in consequence of the rapid increase adjacent to the town of Burslem.

20. Contains objections to their being united in the *same* district with Burslem. These may be obviated to a very great extent by each electing its own members of the local Board of Health, and, by such means, part of the rates that would be otherwise for general district purposes would be special district rates. If, however, two separate districts were formed, with two independent boards, they must either, 1, keep up double establishment expenses for management ; or, 2, for economy, elect less efficient officers, &c., at smaller salaries ; or, 3, if they united in electing the same officers for both

sequence of the unfair treatment universally received by them at the hands of the people of Burslem in all public matters which had, for almost a century back, been in common between them; upon which it was intimated by Mr. Lee that such grounds of complaint and expression of opinion should be embodied in this memorial.

25. Your memorialists further state, that by a clause in the Act before referred to in this memorial, for regulating the market and for lighting Burslem and the parts adjacent, it was provided that that Act should not extend for the purposes of lighting to the ville of Cobridge (in Rushton Grange), until the major part in value of the owners of property there should, by writing, require that such part or parts of the said ville as should from time to time be specified in such requisition should participate in the beneficial purposes of the Act, so far as respects the lighting, and become subject to the payment of the rate thereby authorised to be imposed under the name of the Burslem Lighting Rate. That in the year 1839 a requisition in writing from the major part in value of the owners of property in Cobridge, for the benefit of this Act, was laid before the Commissioners at Burslem in whom the powers of the Act were vested, and who were and are persons of property and influence, mostly resident in Burslem, by which proceeding Cobridge came within the limits of the Act, and became entitled to its privileges in respect of lighting. It was then arranged between the Commissioners and the inhabitants of Cobridge that for the period of three years a *small* number of gas-lamps, namely, 15, should be erected, it being calculated that in that time the lighting-rate to be

districts, the arrangement would necessarily include the germs of all that partiality and injustice which the memorialists seem to fear from the preponderating influence of the inhabitants of the township of Burslem.

25 and 26. All these statements about the lighting, &c., of Cobridge, show the intimate connection between the two places.

obtained from Cobridge would raise a fund sufficient not only for the consumption of gas during those years, but would also pay the original expense of gas-lamps, posts, service-pipes, &c.

26. This arrangement was carried into effect; the 15 lamps being erected, the gas being supplied to and the rate duly paid by Cobridge. At the expiration of the three years (in 1842) the inhabitants of Cobridge, having carried out their part of the arrangement, applied to the Commissioners for an additional number of gas-lamps, which were much wanted, as the road leading from Cobridge to Hanley had not a single lamp in it for a considerable distance, and accidents, often serious and sometimes of a fatal nature, were frequently occurring at night in this much-frequented thoroughfare, owing to the intense darkness which pervaded it. The Burslem Commissioners, however, refused to put down a single additional lamp, though they continued to levy the rate from Cobridge, and although it was shown by calculation that Cobridge, in the interval from 1842 to 1848, had contributed towards the lighting-rate a sum exceeding 200*l.*, in addition to the actual annual outlay during that period attendant upon the original 15 lamps. This money supplied by Cobridge was applied by the Burslem Commissioners in lighting various small streets in their own township, where it was little required, while the great thoroughfare in Cobridge, before spoken of, was left in total darkness.

31. Finally, although the number of grievances to be complained of by the inhabitants of Rushton Grange and Abbey Hulton against Burslem far exceed those already

31. This and some of the preceding paragraphs form no satisfactory grounds why the Public Health Act should not be applied, but only show the propriety and

enumerated, your memorialists deem it unnecessary further to occupy your attention, but in conclusion trust that sufficient has already been stated to show that any connection of their ville and lordship with Burslem, for sanitary purposes, would be impolitic, if not impracticable; and they repeat, though with the utmost respect, their determination to oppose, by every means, such an arrangement, should it be in contemplation.

wisdom of those equitable arrangements provided in the Act, by means of which the benefits and the charges must be co-extensive. These statements of the memorialists also prove most strongly the necessity of a disinterested and independent controlling authority, such as the General Board of Health, for the protection of the weaker party in all matters of local improvement.

S. B. Wilson, Esq., agent to Lord Camoys, said at the inquiry that his Lordship was the owner of a great portion of the agricultural land in Rushton Grange, and that he took no part whatever in the opposition, but would wish the Act to be applied in the best manner for the good of the whole parish. He knew that there were abominable nuisances at Cobridge.

I am clearly of opinion therefore, after much deliberation, that the ville of Rushton Grange ought to be included with Burslem, Sneyd, and Longport in one district for all the purposes of the Public Health Act; but that the lordship of Abbey Hulton may be safely and conveniently omitted from such district.

REMEDIES.

The provisions of the Public Health Act will confer powers adequate for the construction and regulation of such works and improvements as may be necessary to remedy the present defective sanitary condition of the inhabitants of Burslem. Such of these arrangements as are of the nature of public works may be briefly stated.

IMPROVED WATER SUPPLY.—An abundant supply of pure water is necessary, constantly on in every house, at such pressure as will carry it to the top story of such houses. A further supply of water for washing and cleansing the surface of the streets, courts, and alleys of the town, by means of flexible hose and jet-pipe; for watering the public thoroughfares in a similar manner during summer; for extinguishing fires immediately after discovery by the use of similar apparatus, without the necessity of fire-engines; and for preventing deposits in any drains.

I have deferred any description of the works recently constructed by the Staffordshire Waterworks Company, because, as I have already stated, they were not in operation at the time of my inquiry. They have been laid out with a reference to the Public

Health Act, and therefore more properly come under notice in this part of my Report.

The sources of supply are some very powerful springs upon the estate of His Grace the Duke of Sutherland at Wall Grange, near Leek, about 8 to 10 miles from Burslem. The water is pumped into a reservoir on the top of a high hill, called Ladder Edge Common, near to the springs, but at a great altitude above them and the towns to be supplied. From thence it passes through a main pipe to the service reservoir in the lordship of Abbey Hulton, within the parish of Burslem, and will be distributed with sufficient pressure to the whole of the district to be supplied. The supply is to be constant. The following analysis shows the degree of purity and softness of the water :—

“ *Museum of Economic Geology,*

“ *Craig’s Court, Charing Cross, 7th February, 1847.*

“ GENTLEMEN,

“ I have analysed the water which you sent me from a spring at Wall Grange, near Leek, and I find that one gallon of it yields 12 grains and $\frac{2.6}{100}$ of a grain of solid residue by evaporation. This I found to consist, as nearly as possible, of

	Grains.
Common salt	1.33
Sulphate of lime	5.79
Carbonate of lime	4.73
With traces of magnesia, silica, organic matter, and loss in operating	} 0.41
Total	12.26

“ According to Dr. Clarke’s test for hardness, that of the spring-water is *nine* in the gallon.

(Signed) “ R. PHILLIPS.”

The following are the rates which the Company is authorized to charge for the supply :—

			Per Annum.
	£6	annual value	£. s.
“ Houses not exceeding			0 6
“ „ exceeding	6 to	£7 „	0 7
“ „ „	7 to	8 „	0 8
“ „ „	8 to	9 „	0 9
“ „ „	9 to	10 „	0 10
“ „ „	10 to	11 „	0 11
“ „ „	11 to	12 „	0 12
“ „ „	12 to	13 „	0 13
“ „ „	13 to	14 „	0 14
“ „ „	14 to	15 „	0 15
“ „ „	15 to	16 „	0 16
“ „ „	16 to	17 „	0 17

	£17 to £18	annual value	Per Annum.	
			£.	s.
" Houses exceeding	£17 to £18		0	18
" "	18 to 20	"	1	0
" "	20 to 21	"	1	1
" "	21 to 22	"	1	2
" "	22 to 23	"	1	3
" "	23 to 24	"	1	4
" "	24 to 26	"	1	6
" "	26 to 28	"	1	8
" "	28 to 30	"	1	10
" "	30 to 35	"	1	14
" "	35 to 40	"	1	18
" "	40 to 45	"	2	2
" "	45 to 50	"	2	5
" "	50 to 55	"	2	8
" "	55 to 60	"	2	11
" "	60 to 65	"	2	14
" "	65 to 70	"	2	17
" "	70 to 80	"	3	2
" "	80 to 90	"	3	6
" "	90 to 100	"	3	10
" "	100 to 110	"	3	12
" "	110 to 120	"	3	18
" "	120 to 130	"	4	0
" "	130 to 140	"	4	2
" "	40 to 150	"	4	4
" "	150 £3 per centum per annum.			

"And for every water-closet there shall be paid a sum not exceeding 10s. per annum."

I think the last rate, authorizing the charge of 10s. for water-closets, may interfere prejudicially with any system of perfect drainage intended to remove the refuse from improved cottage privies by means of soil-pan or other cheap apparatus of the nature of water-closet; and it will become the duty of the local Board to endeavour to obviate the difficulty, and to make a satisfactory arrangement.

As to the charges for domestic supplies, the classification of the rateable value of all the houses in Burslem shows that, out of 3539 houses, 2923 could not be charged more than 6s. per annum, or rather less than 1½d. per house per week, and 231 not more than 9s., or about 2d. per house per week.

Joseph Alcock, Esq., solicitor, residing in Burslem, says in his evidence,—

"I am law-clerk to the Staffordshire Waterworks Company. In consequence of the very inadequate supplies of water in certain parts of the Staffordshire Potteries, including Burslem, a company was formed in 1846 for the purpose of a better supply to the inhabitants; and in the following year an Act of Parliament was obtained to enable the company to carry out their object. 20 gallons of water can be given

per day to each man, woman, and child in the district; and the supply is to be constant. No powers have been taken by the company to compel the inhabitants of any of the towns to take the water. We are quite aware that the local Board under the Public Health Act would have such power. Sanitary improvement was a powerful inducement to the formation of the company. The leading men in the concern are almost exclusively capitalists, having extensive property in the district, and they consider that compulsory power is necessary. It is the intention of the company to place fire-plugs at convenient distances along the lines of street-mains without any additional charge. They also intend to supply the North Staffordshire Infirmary gratuitously. There is nothing special in the Act as to any supplies for public baths or washhouses. Wherever the inhabitants are too poor to pay for house services, the company will lay them, on receipt of 10 per centum of the cost as an addition to the annual rate. That will include the repairs. There may be a tap in every house. The works will be in full operation in the parish of Burslem within a month of the present time. As an inhabitant of Burslem; I am sure that the application of the Public Health Act will be of great advantage to the town."

I think I have adduced sufficient to satisfy the Board that the company will be able to furnish the district of Burslem with a proper water-supply for all the purposes of the Public Health Act.

IMPROVED DRAINAGE.—According to the evidence of the Assistant-Surveyor of Highways, the entire drainage of Burslem must be new. In this opinion I fully concur; and should recommend the construction of a system of earthenware drain-pipes, descending from the higher parts of the town into the valleys of the two brooks which more than half surround the town; and along the valley-lines should lay principal mains, which would unite at the confluence of the brooks, near the canal, and might then, when not required for agricultural purposes, discharge below the town. Into these pipes all the refuse of the town capable of being carried away by suspension in water should be drained. All houses, courts, water-closets, and improved privies should be connected with them by underground channels. Every communication should be trapped. For cottage houses the present privies might be supplied with water-service, and a trapped soil-pan and underground drain. It would be quite unnecessary in a system of sanitary drainage to make provision for carrying off underground the whole of the rain-water falling on the surface of the town, because, if everything that could be offensive and injurious were already removed, a heavy shower of rain, or an occasional thunder-storm, would only have the effect of washing the surface of the streets, courts, and public places.

It will be obvious that any estimate of the expense of such a system of drainage, made without either plan or section, cannot be more than an approximation to the truth; with this observation, I have very little doubt that the drainage of the inhabited

parts of Burslem, Sneyd, Rushton Grange, and Longport could be completed for the following sums:—

Estimate for Drainage.

	£.	s.	d.
Principal valley drains of earthenware	1,650	0	0
Earthenware sewer drains for streets	4,400	0	0
Drains for 3000 houses, including courts and } drains for water-closets or soil-pans }	5,250	0	0
	£11,300 0 0		

The Public Health Act provides that, if the plans are approved by the General Board of Health, they may recommend the loan of money for the construction of the works, the principal sum with interest to be repaid by equal annual instalments in a period not exceeding 30 years. Now, if the town of Burslem were so drained, the annual instalment upon 11,300*l.* would be equal to 658*l.* 11*s.* 8*d.*, or, on the calculation that 3000 houses, &c., were so drained, at the rate of 4*s.* 4½*d.* per house, equal to one penny per house per week.

This would be but a very small sum to set against the offensive and disgusting smells which a great number of the inhabitants have now to endure from their privies, and from the mode of emptying them through the houses, and for which sickening process they have to pay in addition.

AGRICULTURAL LAND DRAINAGE.—If the lordship of Abbey Hulton were left out of the district, the extent of purely agricultural land would be very much reduced. Most of the remaining land, however, would be much improved by under-drainage; the atmosphere in the neighbourhood of the town would be more dry and healthy; and the floods which now injure the lower parts of the town would to a considerable extent be prevented. The impermeable nature of the soil, and the inclination of the surface, causes every rainfall to shoot rapidly from the hills, and to inundate the lower lands: with thorough-drainage, the water would percolate gradually through the soil to the drains before it was discharged.

If any such lands were drained as part of the sanitary improvements of the district, the charge could be distributed as a private improvement rate over a period of years, as already explained; and the farmer, instead of having to pay at once the whole cost, would only be called upon for a few shillings per acre per annum, until the whole of the annual instalments were paid off. If, in the mean time, he should remove from his farm, his successor, coming in to the improvement already effected, would have to pay the remaining annual instalments.

IMPROVED PAVING.—The public highways in Burslem are

kept in tolerably good condition, but principles of economy have not been brought to bear upon their construction. The market-place is paved by the trustees under the local Act, but the highway surveyors have never used paving-stones except for crossings. Now, considered with reference to the sanitary condition of the town, macadamized roads are most objectionable. With the moisture, they absorb a great quantity of decaying organic matter, and much of it is given off again as injurious gas into the air. They are generally covered with mire in the winter, and in summer generate large quantities of dust and filth, some of which the inhabitants are compelled to inhale. But as a direct money question, I shall be able to show very briefly that they are much more expensive than good pavement, and not nearly so durable. My deductions are drawn from the evidence given during the inquiry.

The paving-stones, with the addition of cartage, cost 9s. 3d. per ton, or per yard of 7 cwts. about 3s. 2d. To which must be added 1s. for preparing ground and paving; total, 4s. 2d. This it is stated will last in one of the principal thoroughfares 20 years, equal to $2\frac{1}{2}d.$ per square yard per annum. The stone for macadamized roads costs, including cartage, 5s. 9d. per ton; and, $4\frac{1}{2}$ inches thick, will last, on a similar road, two winters, with a little patching and scraping. $4\frac{1}{2}$ inches in two years would be one-eighth of a cubic-yard per annum for every superficial yard of road. Now a cubic yard is more than a ton; but if we take only one-eighth of a ton at 5s. 9d., with 3d. added for laying on and subsequent attention, we shall have the cost of the macadamized road 9d. per square yard of road per annum, or nearly 300 per cent. more than good pavement, which would be very much preferable even at the same cost.

Again, the public footpaths in the principal parts of the town are formed of bricks, and I am willing to confess that the work is well executed, and when done within a recent period looks very neat. The bricks cost 50s. per thousand, and 32 are required for every square yard, the price of which may be set down as 1s. 8d. To this must be added 2d. for preparing the ground, and 4d. for laying; total, 2s. 2d. per square yard. Very excellent footpaths of gas concrete might be laid down for one-third of the money. It is durable, dry, impervious to moisture, and not acted upon by frost, as the brick footpaths frequently are; it makes no dust in summer, nor mire in winter, and can be washed perfectly clean with the greatest facility.

I should adopt the same material for the pavement of all the court-yards in the town, on account of the pecuniary and other advantages already described. Such footpaths and pavement of courts, allowing 20 square yards to each house, might be laid down and maintained at a cost of little more than a farthing a week per house; and I have already shown that the present

expense of the public carriage-ways could be considerably reduced by the substitution of stone pavements for macadamized roads.

PUBLIC CLEANSING OF THE SURFACE OF THE TOWN.—With an abundant supply of water under pressure, and fire-plugs at proper intervals, and with an efficient system of drainage of courts, &c., and impervious stone and concrete pavement, the whole surface of the streets, lanes, alleys, courts, and places in the town could be washed and made perfectly clean, at short stated intervals, by the servants of the local Board, at a cost not exceeding one halfpenny per week per house.

CLOSING OF THE BURIAL-GROUNDS.—The evidence fully proves that the parish-church burial-ground is totally inadequate, and that, from their position with reference to the population of the town, and also from the nature of the soil, both the churchyards are unsuitable as public burial-places, and therefore I should recommend that interments in the town be discontinued as soon as possible, except under such regulations as the General Board of Health may from time to time allow.

Also, that a public cemetery be formed in the suburbs of the town, but at a convenient distance from any houses; and that the site so chosen should be sufficiently large to bury the dead for many years without crowding, or else should afford facilities for enlargement from time to time.

SEWAGE DISTRIBUTION.—The great fertilizing powers of liquid manure, when compared with that applied in a solid state, have been so fully tested that it seems almost unnecessary to urge now upon agriculturalists the importance of the subject.

Mr. *Enoch Jackson*, who has resided upon the Birches farm in Abbey Hulton for 33 years, says on this point, in his evidence,—

“I have used guano, bones, lime, stable-manure, and nightsoil. I use all the liquid manure I can get for the meadows. It has produced larger crops than any solid manure, but I think the quality not quite so good. The quantity on the wash-land has been from 30 to 35 cwts. per acre. We have used it in the way of irrigation, and I do not see much difference between the lower end of the field and the upper. If I could get more liquid manure I would.”

The situation of Burslem is somewhat peculiar when considered with reference to the application of its sewage manure. The general direction of the Fowl Hay brook from Burslem, and the Trent, into which it falls, is southward, and, with the exception of Tunstall, Burslem is the northernmost of a group of about six towns, which are almost joined together. At the point where the Burslem brooks enter the Fowl Hay, and where the land is most suitable for the reception of the sewage, Burslem would be about half a mile

to the north, Wolstanton the same distance to the west, Etruria an equal distance to the south, and Hanley about as far to the east. I do not contemplate therefore the application of the larger portion of the liquid manure to the land immediately below the town, but rather that, being brought by the drains close to the canal, it will be pumped into barges, and conveyed to lands at a greater distance. If its value to the inhabitants of Burslem be thus lessened by the distance to which it will be conveyed, the disadvantage will be more than compensated by the more extensive market thus opened out. I have no doubt that the sale will ultimately yield a considerable revenue to the town.

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS.

The following is a summary of the conclusions and recommendations which it is my duty to lay before the General Board of Health for their consideration:—

I. That the sanitary condition of the inhabitants of Burslem is very defective; that epidemic diseases have sorely afflicted the town on many occasions; that typhus fever and scarlatina are rarely absent; that the town has been severely visited by cholera recently; and that a low form of typhoid fever is endemic.

II. That the rate of mortality in 1841 was as high as 24 to 1000 of the population; and that in the year ending June 1849 it had increased to $27\frac{1}{2}$ to 1000, without including any of the deaths from cholera.

III. That the occupations of many of the poorer inhabitants are not conducive to health, but that their workrooms are generally capable of great improvement as to ventilation, &c.

IV. That, with the exception of the new works to supply the Pottery towns with water, there are no public works or arrangements having reference to the health of the inhabitants.

V. That many of the older cottages in the town are very much dilapidated, inconvenient, and crowded with occupants.

VI. That the condition of the lodging-houses is calculated seriously to affect the health and morals of the community.

VII. That the condition of a great portion of the privies in the town, their position with respect to the houses, and the mode of emptying them by carrying the soil through the living-rooms in pails, are so disgusting as to demand immediate remedies.

VIII. That the health of the inhabitants will be improved by the opening of the works recently constructed by the Staffordshire Potteries Waterworks Company.

IX. That the health of the inhabitants would be still further improved—

1. By a system of drainage of the site of the town, and also by the better drainage of the suburban lands.

2. By the abolition of all privies as at present constructed,

and the substitution of soil-pan apparatus, with proper drains to convey away the soil, and by the removal in underground channels of all the refuse of houses, courts, &c.

3. By improved paving of streets, courts, and alleys, and by improved surface-cleansing.

X. That such of the above objects as are of the nature of public works may probably be accomplished at the following rates per week for a cottage-house:—

1. A complete system of drainage, with soil-pan apparatus in lieu of the present privies, at a *little more than one penny*.

2. Durable and impervious paving of footpaths and courts, at *less than one halfpenny*.

3. Public surface-cleansing of streets and courts, and watering of the roads, by hose and jets of water, at *one halfpenny*.

XI. That the sewage manure of the town may be conveyed by barges on the canal to an extensive district of agricultural lands, with much advantage to such lands, and so as to yield a revenue to the town.

XII. That the whole of the annual payments for sanitary improvements will form but a small fraction when compared with the amount now lost by preventible sickness and mortality.

XIII. That the Stipendiary Justices Act, 2 Victoria, will not interfere with the operation of the Public Health Act.

XIV. That the Burslem Markets and Improvement Act, 6 Geo. IV. cap. 131, contains many provisions which it is desirable should be transferred to the local Board of Health.

XV. That the lordship of Abbey Hulton, in the parish of Burslem, may be safely and conveniently left out and omitted from the district to be constituted for the purposes of the Public Health Act.

WHEREUPON I RECOMMEND—

1. That the Public Health Act, 1848, except the Sections numbered 50 and 96 in the copies of that Act printed by Her Majesty's printers, should be applied to the whole of the parish of Burslem, except the lordship of Abbey Hulton.
2. That the local Board of Health to be elected under the said Public Health Act shall consist of fifteen persons, nine of whom shall be elected for and by the township of Burslem, three by the hamlet of Sneyd, and three by the ville of Rushton Grange.
3. That one-third in number of the said local Board shall go out of office in each of the said places in each year subsequently to that in which the said elections take place.
4. That every person, at the time of his election as member of

the said local Board, and so long as he shall continue in office by virtue of such election, be resident, as in the said Public Health Act, 1848, is required, and be seised and possessed of real or personal estate, or both, to the value or amount of not less than one thousand pounds; or shall be so resident and rated to the relief of the poor of some parish, township, or place, of which some part is within the said district, upon an annual value of not less than thirty pounds.

5. That the whole of such powers as are given by the Burslem Markets and Improvement Act, 6 Geo. IV., cap. 131, and are not inconsistent with the provisions of the Public Health Act, should be vested in the said local Board of Health; and that such powers, if any, as may be given by such local Act, but are inconsistent with the provisions of the Public Health Act, should be repealed.
- 6 That the local Board of Health should be enabled to purchase the gas-works existing in the said town of Burslem, and to maintain and alter the same.

I have the honour to be,

My Lords and Gentlemen,

Your most obedient servant,

WILLIAM LEE.

The General Board of Health.